Australian Employers’ Expectations and Perceptions of PhD Graduates in the Workplace

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The reasons students undertake doctoral education are as nuanced and diverse as the students themselves, as are the outcomes that they expect a doctorate to provide. While primary purposes of the doctorate remain the training of the next generation of researchers and the creation of new knowledge, graduates often expect the PhD to benefit their career and employment outcomes. Employers also have expectations for the outcomes of doctoral training and criticisms have included that graduates are too narrowly specialised and lacking in ‘transferable’ skills.

The Australian Cooperative Research Centre (or CRC) Program brings together industry, government, and universities across the broad science, technology, environmental, and medical fields to collaborate in applied, end-user driven research. The program has repeatedly claimed to produce graduates who are ‘industry ready’, although no demographic information on graduates or quantitative information on their outcomes had been collected. This study (Manathunga, Pitt, Cox, Boreham, Mellick, & Lant 2011) sought to redress this and to canvass the perspectives of employers of Australian PhD graduates.

CRC graduates approximately 5-12 years post-graduation were targeted, along with a sample of PhD graduates from the same timeframe and matched disciplines from three research-intensive universities in Australian capital cities. Graduates were invited to complete an online survey and were requested to include their employing organisation, along with a contact who could be invited to complete the employer survey. Responses were obtained from 327 CRC and 741 non-CRC graduates, as well as 280 employers (separate divisions within organisations were counted as separate employers), 75% of who were from universities, 19% from the public- and 6% from the private-sector.

There was a significant ($\chi^2=11.34, p=0.001$) gender breakdown, with females comprising only 35% of the CRC group, compared with 47% in the non-CRC group. Graduates’ employment destinations at the time of survey were also significantly different ($\chi^2=35.1, p=0.000$). This supports the claim that the CRC program increases PhD student’s exposure to work outside of academia, with 58% of non-CRC participants working in academia, compared with only 41% of CRC participants.

Over 90% of graduates in both groups reported that interest in doing research and interest in the discipline area had been important/very important in deciding to undertake a PhD, followed by personal satisfaction, intellectual and academic development, and interest in the thesis topic. Thus, whilst the top five reasons retrospectively ranked by graduates in both groups were highly intrinsic, career considerations (such as, to improve career prospects, to develop a range of specialist skills, and needing the credential for their career/work) were also rated as being important/very important by 50-70% of graduates in both groups.

Graduates again rated personal interest as being important/very important in choosing their PhD topic (CRC = 89%, non-CRC = 93%), followed by funding availability for CRC graduates (79%) and professional relevance for non-CRC graduates (69%). Additionally, over 80% of participants in both groups agreed that the skills learnt during their PhD had prepared them for employment after graduation.

Results suggest that employers from different sectors view the skill sets required of graduates with varying importance. Effective communication skills were, however, reported by the largest proportion of employers in each sector as being within ‘the five most important attributes/skills for recent PhD graduates employed in their organisation’ (Private = 73%, Public = 51%, University = 56%). Employers were also asked why their organisation employs PhD graduates and these open-ended responses revealed several themes. One of the most prevalent being that PhD graduates were employed to conduct research – often interspersed with elaboration that the organisation requires people with high-level research skills. Also common from university employers was that they hire PhD graduates because ‘it’s a university’ and that a PhD is the necessary entry-level, or minimum, qualification for employment in universities. Teaching, although still mentioned frequently, was a less common theme and was often listed behind research.

Employers also reported that they do not want to hire PhD graduates whose focus is overly specialised, or who are lacking industry focus, teamwork, or communication skills. Interestingly, a lack of teaching skills was only
mentioned by a handful of employers as a reason that they would reconsider hiring a PhD graduate. It was, however, mentioned by a few employers at the end of the survey, for example, a ‘PhD per se is not good preparation for the teaching requirements of higher education however there is generally a maturity of thought and analytical ability that is beneficial from PhD training’ (#456, an Associate Dean Academic and Head of Department). These open-ended responses suggest a conflict within the perceptions of employers – that the PhD is simultaneously viewed as a minimum entry requirement, yet also viewed as imbuing recipients with the skills necessary for work.

The quantitative data also reflected this tension. The extent to which employers expect recent PhD graduates in their organisation to possess various attributes/skills was examined and compared to the level they reported observing these same skills and attributes in graduates. This revealed that employers’ expectations were consistently not being met. Interestingly, this mismatch was also true for university-sector employers, indicating that they did not seem to view PhD graduates as being ‘work ready’ for academia.

Employers were also asked to what extent they would anticipate an employee who obtains a leadership role in their organisation to have various backgrounds/experiences. Of the eight backgrounds examined, having had experience working in industry was highly rated by a greater proportion of private-sector respondents (50%) than those from the public- (23%) or university-sectors (14%; Fisher’s exact= 0.004). In contrast, having worked as part of a research team before was highly rated by a greater proportion of university respondents (49%) than private- (21%) and public-sector (25%) employers (Fisher’s exact= 0.004). Of interest is that only approximately 35% of university- and public-sector employers reported that they did ‘not at all’ expect that an individual who obtains a leadership role in their organisation was likely to be male, compared with 57% of private-sector employers.

Given the proportion of PhD graduates who find employment outside academia and that graduates have intrinsic and career prospects in mind when deciding to start a PhD, it is prudent and responsible that we provide doctoral students with opportunities to have their PhD meet these needs. Employers also have expectations about doctoral graduates, and the types of attributes and skills that they expect graduates to be able to demonstrate. The employers in this study highlight the varying combinations of skill sets valued across sectors and mismatches between employers’ expectations of the extent to which recent graduates will possess various skills or attributes and their actual demonstration. This indicates that employers (including university employers) need to engage in greater dialogue to reach a shared understanding about the purposes (and extent) of the PhD.

This is not to say that doctoral training should become about employability, but graduates should be alerted to ways they can develop the skill sets valued by potential employers. Additionally, opportunities for increasing graduates’ exposure to industry during the PhD may serve to open broader employment opportunities. The study serves to prompt further consideration of the concept of graduate attributes and skills at the doctoral level and of the different purposes that the doctorate can realise for graduates and employers. The discussion of these purposes (and both graduates’ and employers’ expectations and perceptions regarding the possession and demonstration of various graduate attributes and skills) enables consideration of the extent to which a doctorate should not be viewed as the end of training, but as a precursor to ongoing learning.

References


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